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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Arthur Lane Bentley

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EXAMINER

JORGENSEN, LELAND R

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 12/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,988

Applicant(s)

BENTLEY, ARTHUR LANE

Examiner

Leland R. Jorgensen

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 – 15 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. **The claim(s) must be in one sentence form only.** Note the format of the claims in the patent(s) cited.

Claim 1 is rejected because it is not a single sentence. Page 44, line 2 has a period that divides the claim into two sentences rather than one. Claims 2 – 14 are rejected as dependant on invalid claim 1. Claim 15 should end with a period instead of a semi-colon.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 16 - 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Molinaroli, USPN 6,265,984 B1.

Claim 16

Molinaroli teaches a kinetic device and method for producing visual displays that comprises a lighted array comprised of at least one light emitting element [display LED 56] and a controller [microprocessor 13 or 18] coupled to the elements of the lighted array. The controller delivers display data in a columnar piecewise fashion to said lighted array. The lighted array is substantially fixed in position. Molinaroli teaches that the lighted array is on a yoyo. Thus, it is inherent that the observer provides the kinetic motion required to produce a visual display by scanning the observer's eyes past the lighted array. Molinaroli, col. 19, lines 32 – 64; and figure 25.

Claim 17

Molinaroli teaches that the lighted array is on a yoyo. Thus, it is inherent the lighted array sweeps rotationally around the circumference of a circle with the speed of rotation being variable, whereby a visual display is produced which appears stable or precedes or recedes around a central pivot point. Molinaroli, col. 19, lines 32 – 64; and figure 25.

Claim 18

Molinaroli teaches a rotational position sensing means [IR photo emitter(s) 127, photosensor 18, and second photo sensor 140] for keeping the lettering in proper direction. Molinaroli, col. 19, lines 32 – 64; and figure 25.

Claim 19

It is inherent that if the lighted array is slanted, arched, angled, or pointed, the eyes of the viewer are thereby guided to scan the array in the direction pointed to by the array; whereby the viewer is enabled to see visual displays which are correctly oriented when scanned in the direction indicated by the inclination of the lighted array. Molinaroli, col. 19, lines 32 – 64; and figure 25.

Claim 20

Molinaroli teaches that the array is integrated into items such as a yoyo, figure 25, baseball style cap, figure 21, and shoe display device figures 22 and 23.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3 – 12, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al., USPN 5,444,456, in view of Molinaroli.

Claims 1 and 15

Ohta describes a kinetic device and method for producing visual displays that comprises a lighted array comprised light emitting elements [LED array 23]; a controller [computing unit 26] coupled to the elements of the lighted array; and an inertia reversal sensor [sensor switch 24] which is able to detect reversals in the direction of inertia imposed upon it. Ohta, col. 5, lines 3 –

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33; and figures 9 and 11a. The controller measures a half-cycle swing of kinetic motion by detecting adjacent inertia reversals through means of the inertia reversal sensor. The controller delivers display data in a columnar piecewise fashion to said lighted array. The controller normalizes the column delay for each half cycle swing of the lighted array by counting the number of columns displayed in each previous swing, such that all columns fit within the current half-cycle swing width. The display is actively normalized to repeatedly position the display within the half-cycle swing width. The inertia reversal sensor is actively capable of sensing the inertia reversals, which occur at both extremes of the swing cycle. This one-half cycle measurement insures accurate placement of the graphic within the swing width. Ohta, col. 5, lines 33 – 68; and figure 10. The inertia reversal sensor is disposed within the lighted array. Ohta, col. 5, lines 25 – 26; and figure 11a. The user is able to kinetically control a visual display of text and graphics which makes use of the persistence of vision effect of human vision. The display, being actively adjusted, conforms to the kinetic controls of the user. Ohta, col. 6, lines 6 – 12.

Ohta does not specifically teach that the inertial reversal sensor is kinetically activated, thereby providing a kinetic means for device activation, eliminating the need for separate on/off or mode switches.

Molinaroli teaches a persistent image maker having an inertial reversal sensor [centrifugal switch 16] that the is kinetically activated. The sensor eliminates the need for separate on/off or mode switches. Molinaroli, col. 14, lines 47 – 65; col. 24, lines 21 – 23; and figures 1 – 3.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the switch as taught by Molinaroli with the device and method as taught by Ohta to eliminate the need for a separate on/off mode switch. Molinaroli invites such combination by teaching,

In the present invention, the centrifugal switch 16 serves two purposes: to wake up the microprocessor even in the absence of an on-off switch, and to control timing. There is thus no need for an on-off switch. The microprocessor 13 awakening from sleep mode acts as an on-off switch and the microprocessor algorithm controls the display timing to appear in the same location and with the same message length each time the device is moved back and forth. In user-programmable embodiments of the present device, this also permits messages to be stored in RAM because no power is removed when the microprocessor is in sleep mode. This is advantageous in that it eliminates the need for a EEPROM chip or battery-backed RAM, or other types of memory storage devices.

Molinaroli, col. 4, lines 52 – 65.

Claim 3

Molinaroli teaches that pigmented light emitting diodes [multicolor LEDs 12]; whereby the kinetic visual display is rendered substantially more readable than clear diodes. Molinaroli, col. 4, lines 14 – 15.

Claim 4

Molinaroli teaches providing visual feedback to the user, thereby confirming the desired operation of visual displays as well as enabling viewers surrounding the device to see the display. Molinaroli, col. 6, line 7 – col. 7, line 9; and figure 2.

Claim 5

Molinaroli teaches that one or two way communication is conducted by the user and viewers of said display device. Molinaroli, col. 5, lines 2 – 10.

Claim 6

Molinaroli teaches that each lighted array is homogeneously comprised of colored light emitting elements, each array differing in color, one from the other; whereby a different color display is produced by each lighted array, creating a very pleasing display which combines both colors when viewed from varying angles. Col. 14, line 62 – col. 15, line 4.

Claim 7

Molinaroli teaches that the device operates in at least one of a multiplicity of predetermined modes such that the method of display of visual data is controlled by the user. Molinaroli, col. 6, lines 59 – 64.

Claim 8

Molinaroli teaches that a predetermined portion of the display data is loadable to the device by the user; further including a wired or wireless means of inputting display data to the device; whereby the user is able to program custom display data into the device. Molinaroli, col. 7, line 64 – col. 8, line 6; and col. 13, lines 41 – 67.

Claim 9

Ohta teaches a means of packaging the lighted array thereby protecting the device [protective case 1] and providing space for imprinting advertising graphics. Ohta, col. 4, lines 27 – 51; and figures 1 – 5.

Claim 10

Molinaroli teaches that a lighted array is comprised of a multiplicity of multicolor light emitting elements and a means for turning on each color in the multicolor element selectively, in

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various modulations, whereby full color or multicolor visual displays are produced by the device.

Molinaroli, col. 6, lines 59 – 64.

Claim 11

Molinaroli teaches that differing modes of operation are employed to select programmed data for display; modes comprised of user selected, random selected, forced, or combinations of said modes; whereby the user is able to select and vary what is displayed. Molinaroli, col. 6, lines 59 – 64.

Claim 12

Molinaroli teaches a programming means whereby the device can be programmed with a custom set of display data and operational modes, conforming to the customers order, greatly lowering the costs and complexities of producing custom programmed devices. Molinaroli, col. 7, line 64 – col. 8, line 6; and col. 13, lines 41 – 67.

Claim 14

Molinaroli teaches that that the display is generated a character at a time as the device is moved through space. Molinaroli, figure 1.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. in view of Molinaroli as applied to claim 1 above, and further in view of the Microsoft Computer Dictionary, 4th ed.

Claim 2

Neither Ohta nor Molinaroli specifically teach that the display data is stored in a compressed format.

The Microsoft Computer Dictionary teaches that data can be compressed. Microsoft Computer Dictionary, 4th ed. (1999), p. 102.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the compressed data as taught by the Microsoft Computer Dictionary with the kinetic device and method as taught by Ohta and Molinaroli to reduce the size of the data files.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. in view of Molinaroli as applied to claim 1 above, and further in view of Solomon, USPN 6,404,409 B1.

Claim 13

Neither Ohta nor Molinaroli specifically teach each lighted array form part of a graphic image, with parts of a graphic image being displayed as the device is moved through space to form a kinetic light puzzle.

Solomon teaches each lighted array form part of a graphic image, with parts of a graphic image being displayed as the device is moved through space to form a kinetic light puzzle. A controller 30 responds to the users kinetic motions, allowing the user to control where the parts of a graphic image appear in space; whereby the complete image is assembled in the visual display only when the device is waved at the predetermined correct speed and swing width. Solomon, col. 8, lines 38 – 47; and figure 18.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the puzzle as taught by Solomon with the device and method as taught by Ohta and Molinaroli to provide an amusing device. Solomon invites such combination by teaching,

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Another object of this invention to provide a game method which enhances hand-eye coordination and other skills.

A further object is the application of the method of the present invention to entertainment devices and games.

Molinaroli, col. 2, lines 33 – 37.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Altman, 6,239,774 B1, teaches a persistent image maker. MakaMats, USPN 6,249,998 B1, teaches a moving virtual display apparatus. Solomon, USPN 4,983,031, teaches a three-dimensional volumetric display system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703-305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, telephone number (703) 306-0377.

lrj



STEVEN SARAS
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